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(Images simulated)

LUMA Family Catalog 2010

Professional LCD Monitor

LUMA
Professional LCD Monitor

LUMA Series Monitors: The Consummate Professionals

//High-grade type page4

Not all LCD screens are created equal. Consumer televisions are designed to conceal the picture's flaws, not to reveal them. PC monitors are designed primarily for still images. Professional video applications deserve monitors purpose-built to display moving pictures with total honesty. That's why Sony created LUMA® Series monitors.

Two "Entry-Level" models offer excellent cost-performance for basic professional, prosumer and surveillance video monitoring. The LMD-2030W and 1530W feature high-purity RGB filters, ultra-wide viewing angle and HDMI™ digital input, in addition to a broad range of analog inputs.

Five "High-Grade" models shine in general video production. Exclusive ChromaTRU® technology enables these LCD monitors to match the cherished color of Sony Trinitron® CRT professional monitors—and to match each other. So every monitor on the control room wall can have the same, consistent color. Four High Grade models also offer 3G-SDI capability, so you can connect 1080/50P and 1080/60P sources with a single cable. These four models also offer White Balance Calibration for even more refined color matching and stability. You can take advantage with a PC and calibration tool like the X-Rite i1.

So don't trust a consumer television or PC monitor to do a professional monitor's job. For a broad range of applications and a wide range of budgets, Sony LUMA Series monitors are the consummate professionals.

//Entry-level type page12

High-grade LUMA Monitors

If you're serious about broadcasting, HD production and post-production, choose one of the five LUMA® monitors we designate "High Grade." They have superb 10-bit signal processing. Sony's unique ChromaTRU® color matching technology approaches the exalted color accuracy and gray-scale precision of Sony BVM-L and PVM-L critical evaluation monitors. Four models—the LMD-2451W, 2051W, 1751W, and 940W—support White Balance Calibration, working with a PC and calibration tool like the X-Rite i1. These four also accept 1080/50P and 1080/60P sources with a single cable, using the innovative 3G-SDI interface.

Five Panel Sizes

Model Types

	LMD-4250W	LMD-2451W	LMD-2050W	LMD-1751W	LMD-940W
Panel size (diagonal)	42-inch*	24-inch*	20-inch*	17-inch*	9-inch*
Resolution	1920 x 1080	1920 x 1200	1680 x 1050	1280 x 768	800 x 480
Aspect ratio	16:9	16:10	16:10	15:9	15:9
Desktop stand	N/A	Supplied	Supplied	Optional SU-561	Supplied
EIA 19" rack mount	N/A	N/A	Optional MB-529	Optional MB-530	Optional MB-531
VESA mounting (mm)	400 x 400	100 x 100	100 x 100	100 x 100, 75 x 75	N/A

* (Viewable area measured diagonally)

LMD-4250W

LMD-2451W

LMD-2050W

LMD-1751W

LMD-940W

Wide Viewing Angle

As you move away from the center axis, some LCD panels lose contrast, lose color saturation and shift in hue. It's a major limitation in a production truck or studio control room, where viewing angles vary greatly. LUMA LCD panels are engineered for wide vertical and horizontal viewing angle—a critical advantage in professional monitoring.

(Image simulated)

LMD-175/W wide viewing angle

Superb Picture Performance

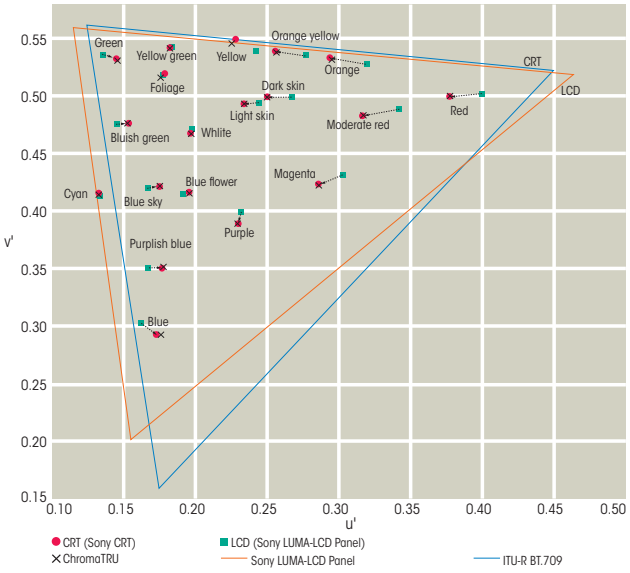
High Purity Color Filters

High-Grade LUMA® monitors incorporate precisely manufactured RGB color filters, creating natural images with stunning depth and color saturation.

Accurate Gamma and Stable White Balance – ChromaTRU® Color Processing

Getting the color of several LCD monitors to match can be an exercise in frustration. The reason? Even the best of today's LCD panels is still limited by inaccurate RGB color coordinates and unbalanced RGB gamma curves. Variations exist even within a single production run! That's why Sony created ChromaTRU color processing, which operates at 10-bit precision.
First Color Space Conversion electrically converts the native LCD primaries to their CRT equivalents. Then White Balance Calibration compensates for the gamma discrepancies between LCD and CRT monitors, while it balances the individual panel's RGB gamma curves. To establish this balance, Sony engineers calibrate each and every High Grade LUMA LCD panel along 208 points and store the data in the monitor's memory. As a result, you'll enjoy consistent color and steady color temperature across the grayscale—approaching the performance of Sony BVM-L and PVM-L evaluation monitors.

CIE color coordinates



The CIE u′ v′ chart reveals a monitor's color performance. Here we compare LUMA LCD and Sony CRT colors. The large triangles show the different ranges of possible colors, the color gamuts. Red dots indicate the Sony CRT colors produced for specific RGB signals. Green dots show the visibly different raw output colors of LUMA LCD panels. The arrows and "X" marks demonstrate the decisive advantage of Sony's ChromaTRU process: amazingly consistent output, faithful to the colors of Sony CRTs.

White Balance Calibration

High-Grade LUMA monitors are calibrated at the factory for optimum color, brightness, and gamma. However, LCD performance can change over time and can require recalibration to restore the original performance. The LMD-2451W, 2051W, 1751W, and 940W employ software-based white balance calibration. Using a PC and the commercially-available X-Rite i1 calibration tool, you can restore the monitor to like-new performance.

*1 LMD-940W from a version 1.05 or later
*2 The X-Rite Eye-one (i1) Pro Series.

LMD-1751W with white balance probe

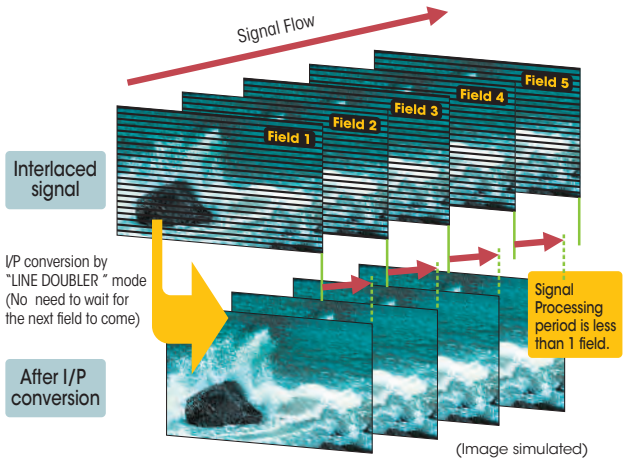
Sophisticated I/P Conversion

Motion-adaptive interlace-to-progressive (I/P) conversion optimizes the picture whether the image is moving or still. You get accurate reproduction of both HD and SD sources.

I/P mode selection

Three I/P conversion modes enable you to select the best one for your application:

- **Inter-Field:** Interpolates images between fields to maximize picture quality, minimize "jaggies" in areas of motion.
- **Field Merge:** Combines lines in the odd fields and even fields alternately regardless of picture motion. Recommended for PsF (Progressive Segmented Frame) sources and still images.
- **Line Doubler:** Interpolates by simply repeating each line. Recommended for editing and monitoring of fast-moving images and checking line flicker. This mode minimizes processing time, which is held to less than one field (0.5 frame).



Input Versatility

Multi-format Monitoring—up to 3G-SDI

High-Grade LUMA® monitors accept almost any SD or HD video format, both analog and digital. In the SD world, choose from NTSC or PAL, component 480/60i and 575/50i, progressive 480/60P and 576/50P. There's HD 1080/60i, 1080/50i, 720/60P, 1080/24P, 1080/25P, 1080/30P, 1080/24PsF and 1080/25PsF.

Professionals are now discovering the advantages of 3G-SDI, which can carry 1080/50P or 1080/60P on a single coaxial cable. Four models support 3G-SDI. The LMD-950W has a 3G-capable SDI input standard, while the LMD-2451W, 2051W and 1751W require the optional BKM-250TG input adaptor. Except for the LMD-940W, these monitors offer standard interfaces for analog composite (NTSC/PAL), 525i/625i component and RGB, and Y/C in addition to slots for optional input boards.

Selected models accept analog computer signals via HD-15 and digital computer signals DVI-D.[1] High-performance scan converters support the display of PC signals from VGA to WUXGA.[2]

Designed for maximum mobility, the LMD-940W incorporates composite and HDMI inputs, plus an SDI interface that automatically detects and accepts SD-SDI, HD-SDI and 3G-SDI signals.

*1 Not available on the LMD-940W, which offers HDMI instead. Both 1080/50P and 1080/60P signals are accepted. The images are down-converted for display on the LMD-2051W, LMD-1751W and LMD-940W.

*2 WUXGA images are not accepted by the LMD-4250W, LMD-2051W and LMD-940W. Images ranging from WSXGA+ to 1920 x 1080 are down-converted for display on the LMD-2051W and LMD-940W..

3G-SDI Input

Sony's 3G-SDI interface is compliant with the SMPTE 425 standard, transmitting up to 4:2:2/10-bit 1080/60p and 1080/50p video data using one SDI cable. When an upgrade to these 1080/p systems is required, this single-link 3G-SDI system is an ideal, future-proof solution.

LMD-2451W with the BKM-250TG 3G-SDI board

Input signals / Input adaptors

Video Signal Formats	Input signals				LMD-4250W/LMD-2451W/LMD-2050W/LMD1751W					LMD-940W		
	Total Line	Active Line	Aspect Ratio	Frame Rate*1	Composite Y/C	RGB Component	SDI 4:2:2	HD-SDI SD-SDI	3G/HD/ SD-SDI*3	Composite	3G/HD/ SD-SDI	HDMI
					Standard					Standard		
					Options							
					BKM-227W	BKM-229X	BKM-220D	BKM-243HS BKM-244CC	BKM-250TG*3			
575/50i (PAL)	625	575	16:9 & 4:3	25	O	O	O	O	O	O	O	O
480/60i (NTSC)*1	525	483	16:9 & 4:3	30	O	O	O	O	O	O	O	O
576/50p	625	576	16:9 & 4:3	50	N.A.	O	N.A.	N.A.	N.A.	N.A.	N.A.	O
480/60p	525	483	16:9 & 4:3	60	N.A.	O	N.A.	N.A.	N.A.	N.A.	N.A.	O*1
640 x 480/60p*1	525	480	4:3	60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	O
1080/24PsF*1	1125	1080	16:9	24	N.A.	O*2	N.A.	O	O	N.A.	O	N.A.
1080/25PsF	1125	1080	16:9	25	N.A.	O*2	N.A.	O	O	N.A.	O	N.A.
1080/24p*1	1125	1080	16:9	24	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/25p	1125	1080	16:9	25	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/30p*1	1125	1080	16:9	30	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/50i	1125	1080	16:9	25	N.A.	O	N.A.	O	O	N.A.	O	O
1080/60i*1	1125	1080	16:9	30	N.A.	O	N.A.	O	O	N.A.	O	O
720/50p	750	720	16:9	50	N.A.	O*2	N.A.	O	O	N.A.	O	O
720/60p*1	750	720	16:9	60	N.A.	O	N.A.	O	O	N.A.	O	O
1080/50p	1125	1080	16:9	50	N.A.	N.A.	N.A.	N.A.	O	N.A.	O	O
1080/60p*1	1125	1080	16:9	60	N.A.	N.A.	N.A.	N.A.	O	N.A.	O	O

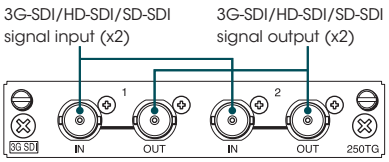
*1 Compatible with 1/1.001 *2 For component input only *3 LMD-2451W and LMD1751W only

Signal-interface Options

The LMD-4250W, 2451W, 2051W and 1751W feature two slots that enable you to pick and choose the optional input adaptors that fit your needs. The adaptors give you a selection of SD and HD interfaces to complement the standard inputs: analog composite, component and RGB, and Y/C (S-video).

Connector Panel

BKM-250TG

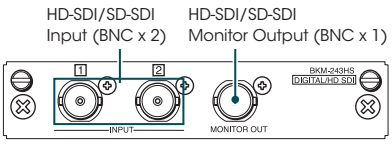


3G/HD/SD-SDI Input Adaptor

- 3G/HD/SD-SDI signal input (x 2)
- 3G/HD/SD-SDI monitor output (x 2)
- Power consumption: Approx. 4 W

*3G-SDI, HD-SDI and SD-SDI signals are detected automatically.

BKM-243HS

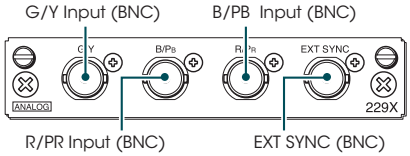


HD-SDI/SD-SDI Input Adaptor

- HD-SDI/SD-SDI signal input (x2)
- HD-SDI/SD-SDI monitor output (x1)
- Power consumption: 2.0 W

*HD-SDI and SD-SDI signals are detected automatically.

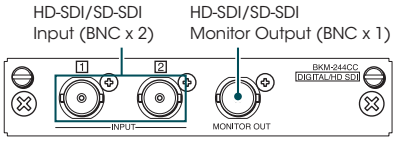
BKM-229X



Analog Component Adaptor

- RGB/ Y/PB/PR input connector (x1)
- EXT SYNC (x1)
- Power consumption: 4.0 W

BKM-244CC

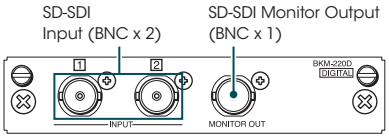


HD/SD-SDI Closed Caption Adaptor

- HD-SDI/SD-SDI signal input (x2)
- HD-SDI/SD-SDI monitor output (x1)
- Power consumption: 3.8 W

*Both EIA 608 and EIA 708 Closed caption decoders are equipped.
*HD-SDI and SD-SDI signals are detected automatically.

BKM-220D

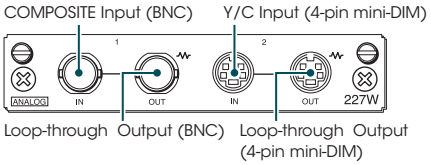


SD-SDI 4:2:2 Input Adaptor

- SD-SDI signal input (x2)
- SD-SDI monitor output (x1)
- Power consumption: 1.5 W

*Embedded audio is supported.

BKM-227W



NTSC/PAL Input Adaptor

- Composite input/output (x1)
- Y/C input/output (x1)
- Power consumption: 1.8 W

LMD-2451W/LMD-2050W Connector Panel

LMD-940W Connector Panel

LMD-2451W/LMD-2050W Option Slots

LMD-1751W Connector Panel and Option Slots

LMD-4250W Connector Panel and Option Slots

Preset Computer Input Frequencies

Except for the LMD-940W, High-Grade LUMA® monitors are factory preset to accept the following typical computer input signal frequencies:

HD15 Input Signal Format

Resolution	H Total	H addr.	V Total	V Addr.	Dot Clock [MHz]	fH [kHz]	fV [Hz]	Sync Polarity Horizontal	Sync Polarity Vertical	LMD-4250W	LMD-2451W	LMD-2050W	LMD-1751W
640x480@60Hz*	800	640	525	480	25.175	31.469	59.940	N	N	O	O	O	O
640x480@60Hz	800	640	494	480	23.625	29.531	59.780	P	N	O	O	O	O
720x400@70Hz*2	900	720	449	400	28.322	31.469	70.087	N	P	O	O	O	O
800x600@56Hz*	1024	800	625	600	36.000	35.156	56.250	P	P	O	O	O	O
800x600@60Hz*	1056	800	628	600	40.000	37.879	60.317	P	P	O	O	O	O
800x600@60Hz	960	800	618	600	35.500	36.979	59.837	P	N	O	O	O	O
800x600@72Hz*	1040	800	666	600	50.000	48.077	72.188	P	P	O	O	O	O
800x600@75Hz*	1056	800	625	600	49.500	46.875	75.000	P	P	O	O	O	O
800x600@85Hz*	1048	800	631	600	56.250	53.674	85.061	P	P	O	O	O	O
1024x768@60Hz*	1344	1024	806	768	65.000	48.363	60.004	N	N	O	O	O	O
1024x768@60Hz	1184	1024	790	768	56.000	47.297	59.870	P	N	O	O	O	O
1024x768@70Hz*	1328	1024	806	768	75.000	56.476	70.069	N	N	O	O	O	O
1024x768@75Hz*	1312	1024	800	768	78.750	60.023	75.029	P	P	O	O	O	O
1024x768@85Hz*	1376	1024	808	768	94.500	68.677	84.997	P	P	O	O	O	O
1152x864@75Hz*	1600	1152	900	864	108.000	67.500	75.000	P	P	O	O	O	
1280x768@50Hz	1648	1280	791	768	65.125	39.518	49.959	N	P	O	O	O	O
1280x768@60Hz	1680	1280	795	768	80.125	47.693	59.992	N	P	O	O	O	O
1280x768@60Hz	1440	1280	790	768	68.250	47.396	59.995	P	N	O	O	O	O
1280x768@75Hz	1712	1280	802	768	102.875	60.091	74.926	N	P	O	O	O	O
1280x800@60Hz*1					68.900	48.935	59.969	N	N	O	O	O	O
1280x960@60Hz*	1800	1280	1000	960	108.000	60.000	60.000	P	P	O	O	O	O
1280x960@60Hz	1440	1280	988	960	85.250	59.201	59.920	P	N	O	O		
1280x1024@60Hz*	1688	1280	1066	1024	108.000	63.981	60.020	P	P	O	O	O	O
1280x1024@60Hz	1440	1280	1054	1024	91.000	63.194	59.957	P	N	O	O	O	O
1360x768@50Hz	1760	1360	791	768	69.500	39.489	49.922	N	P	O	O	O	
1360x768@60Hz	1776	1360	768	768	84.625	47.649	59.936	N	P	O	O	O	
1360x768@60Hz	1520	1360	790	768	72.000	47.368	59.960	P	N	O	O	O	
1600x1200@50Hz	2144	1600	1235	1200	132.375	61.742	49.994	N	P		O		
1600x1200@60Hz	1760	1600	1235	1200	130.375	74.077	59.981	P	N		O		
1920x1080@50Hz	2544	1920	1112	1080	141.375	55.572	49.975	N	P	O	O	O	O
1920x1080@60Hz	2080	1920	1111	1080	138.625	66.647	59.988	P	N	O	O	O	O

=VESA-DMT =VESA-CVT VCRT N = Negative P = Positive * SOG *1 Anycast Station *2 Matrix

DVI-D input signal formats

	LMD-4250W	LMD-2451W	LMD-2050W	LMD-1751W
Vertical frequency	50.0 Hz to 85.1 Hz			
Horizontal frequency	31.5 kHz to 77.0 kHz			
Dot clock	25.175 MHz to 142.000 MHz	25.175 MHz to 148,500 MHz	25.175 MHz to 108.000 MHz	25.175 MHz to 141.000 MHz
Picture size, phase	Automatically detected by the DE (Data Enable) signal			

* The LMD-940W monitor is not equipped with a DVI-D interface.

Operational Convenience

Advanced Marker Settings

Whether you're shooting live sports, news, field production or digital cinematography, Sony's on-screen markers can help. Choose from center marker, aspect markers, and (except for the LMD-940) safety zone marker. Marker brightness can be set for white, gray or dark gray. You can also fill the area outside the aspect markers with black or gray matte.

Marker settings

	16:9 Mode	4:3 Mode
Aspect Marker	4:3, 15:9, 14:9, 13:9, 1.85:1. 2.35:1, 1.85:1 & 4:3	16:9
Center Marker	Yes	
Safety Area	80%, 85%, 88%, 90%, 93%	

4:3 aspect marker image

16:9 aspect marker image

(Images simulated)

Waveform monitor and Audio level meter

The monitors can show the input signal's waveform and audio levels. All five models can display audio levels for up to eight channels for SDI-embedded audio signals. The LMD-4240W can also display 2-channel audio levels from any input.

(Images simulated)

Color Temperature

You can select color temperatures of 9300K, 6500K, or a user preset.

Selectable Scan Size and Aspect Ratio

You can select scan size for Normal, 5% over scan, Full scan, and Native scan modes. The aspect ratio can be switched between 16:9 and 4:3 according to the input signal.

Three-color Tally

The LMD-2451W, 2051W, 1751W and 940W feature a tally lamp controlled by the parallel remote connector. The tally lamp identifies the status of the signal by the colors red, green or amber.

Smart APA (Auto Pixel Alignment) for Computer Inputs

You can automatically optimize the image size with one touch of the APA key.

External Remote Control Function

You can control up to 32 High-Grade LUMA® monitors and up to four control units via Ethernet connection. These monitors enable you to select inputs and outputs, and adjust a range of settings. You're free to adjust individual monitors, groups of monitors or all connected monitors simultaneously.

Power-Saving Mode

To reduce power consumption, the monitors can automatically go into a power-saving Standby mode whenever no input signal has been detected for over a minute.

Stereo Audio Monitoring

To monitor audio, the larger models incorporate stereo speakers (1.0 W + 1.0 W) while the compact LMD-940W has a monaural speaker (0.5W). All offer a stereo headphone jack.

Protected Controls

The key-inhibit function helps prevent accidental operation from the control panel.

Closed-Caption Decoder

Except for the LMD-940W, these monitors can display embedded EIA 608 closed captions, and display EIA 708 captions with the optional BKM-244CC adaptor.

Convenient Installation

Mounting Flexibility

The LMD-2051W and LMD-1751W easily mount in an EIA 19-inch rack, using the optional MB-529 and MB-530 brackets, respectively. For the LMD-940W, see page 10.

VESA Mounting

VESA standard mounting holes support installation on a wall or ceiling:

- LMD-4250W: 400 x 400 mm pitch
- LMD-2451W: 100 x 100 mm pitch
- LMD-2051W: 100 x 100 mm pitch
- LMD-1751W: 100 x 100 mm and 75 x 75 mm pitch

Other Features

- Picture by Picture mode (not available on the LMD-940W)
- H/V Delay Function
- ACC Off
- DC Operation
  24 V: LMD-2451W and LMD-2050W,
  12 V: LMD-1750W, and LMD-940W
- Setup Level for Analog Component and NTSC signal
- Sub Control on Contrast, Chroma, Phase, and Brightness
- Blue-Only Mode
- Monochrome Mode
- Auto Chroma/Phase Setup
- Power-saving Function

LMD-940W exclusive features

Built for mobility, the LMD-940W boasts important features and smart functions for indoor and outdoor applications.

Robust, Compact Chassis

The LMD-940W incorporates a light-weight, die-cast aluminum chassis with a detachable anti-reflection (AR) coated protection panel. It quickly changes for use with or without the detachable stand, tilted at 15 degrees, mounted in an EIA rack or set on a camera pedestal.

LMD-940W: variable styles, options

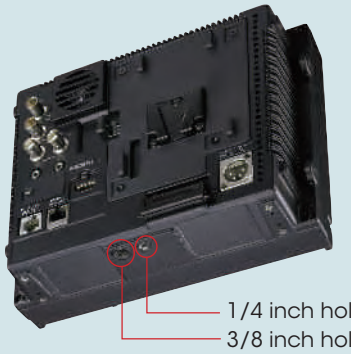
Mounting Flexibility

The monitor is 3.8 rack units (RU) high and half-rack wide. You can install two monitors side-by-side in a 19-inch EIA standard rack using the optional MB-531 bracket, which enables 10-degree forward and backward tilt.

LMD-940W with rack-mount

Screw holes for Camera Pedestal

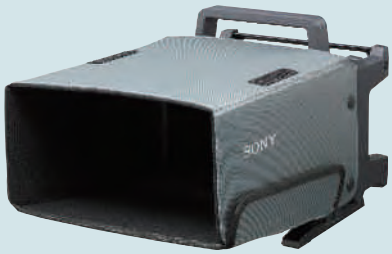
The LMD-940W has 3/8-inch and 1/4-inch screw holes on the bottom, which enable the monitor to be installed in a camera system, for example, by mounting on a camera pedestal.



LMD-940W bottom with camera pedestal holes

VF-510 ENG Kit

The LMD-940W monitor is a smart choice for ENG and EFP. It's less affected by ambient light than CRT displays. So images are clear, even in strong sunlight. For further protection, the optional VF-510 ENG Kit provides a viewing hood, carrying handle and connector protector.



LMD-940W with VF-510

Detachable AR (anti-reflection) protection panel

In transit, an LCD monitor screen can be vulnerable to scratches. That's why Sony supplies the LMD-940W with a detachable protection panel. Robust anti-reflection (AR) coating minimizes reflection of ambient light while maximizing transmission to keep the picture as bright as possible. As a result, the LMD-940W can maintain high contrast, even when used in exterior day locations, even in dark areas of the picture.

Protection panel

Excellent Picture Quality (NTSC video)

While designed for portable high-definition picture monitoring, the LMD-940W can also reproduce the most stunning NTSC composite images ever seen on a LUMA Series monitor, thanks to its WVGA (800 x 480) panel.

Operational convenience

Camera focus function
To assist camera focus, the LMD-940W can boost the video aperture level, which sharpens the edges of images on the screen.

Camera focus function (Image simulated)

Advanced marker settings
Whether you're shooting live sports, news, field production or digital cinematography, Sony's on-screen markers can help. The LMD-940W can display a center marker and a choice of aspect markers, which you can set at three levels of brightness: white, gray, and dark gray. You can also select either a black or gray matte to fill the area outside the aspect markers.

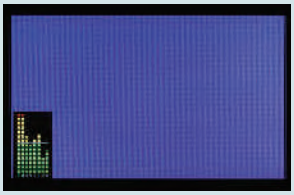
4:3 advanced marker example

16:9 advanced marker example (Images simulated)

Waveform monitor and Audio level meter display*
The LMD-940 can display the input signal's waveform and audio level (SDI-embedded audio only). Choose waveform with 2-channel audio levels or audio-only metering for up to 8 channels.

* The LMD-940 supports the on-screen audio level meter when it receives an SDI-embedded audio signal.

WFM



ALM (Images simulated)

Silent mode
When the LMD-940W is used on a set with sound recording, Silent mode stops the built-in cooling fan for noise-free operation.

Customizable Control Panel
You can customize the LMD-940W for your specific application by assigning functions to the seven function buttons. There's a choice of thirteen assignable functions. The factory default functions are brightness, contrast, chroma, scan, H/V delay, volume and I/P mode.

LMD-940W

Input selection buttons

Assignable function buttons
Default setting:
F1 (BRIGHTNESS)
F2 (CONTRAST)
F3 (CHROMA)
F4 (SCAN)
F5 (H/V DELAY)
F6 (VOLUME)
F7 (I/P MODE*)
*Picture Delay Minimum Mode

Up/down Volume & Enter/set button

Enter/set button

Return button

Menu on/off button

LMD-940W and its control panel with assignable functions

Entry-Level LUMA Monitors

Two Entry-Level LUMA® monitors deliver exceptional performance for the dollar. Unlike typical PC monitors, they're optimized for professional monitoring of moving images in video production and surveillance. The monitors offer the HDMI interface, which is increasingly popular in entry-level production. Advanced features include high-purity RGB color filters and LCD panels optimized for wide viewing angle. The LMD-1530W goes even further with a superb 10-bit signal processing engine.

Two Panel Sizes

Model Types

	LMD-2030W	LMD-1530W
Panel size (diagonal)	20-inch*	15.3-inch*
Resolution	1680 x 1050	1280 x 768
Aspect ratio	16:10	15:9
Desktop stand	Supplied	Supplied
EIA 19" rack mount	Optional MB-529	Optional MB-533
VESA mounting (mm)	100 x 100	100 x 100

* (Viewable area measured diagonally)

LMD-2030W

LMD-1530W

Wide Viewing Angle

As you move away from the center axis, some LCD monitors lose contrast. Entry-Level LUMA monitors minimize this loss with a viewing angle of 176 degrees or more, both horizontally and vertically.

(Image simulated)

High Picture Performance

High Purity Color Filters

Entry-Level LUMA® monitors incorporate precisely manufactured RGB color filters, creating natural images with excellent depth and color saturation.

Excellent Brightness and Contrast

Wide-aperture LCD panels make for high brightness and exceptional contrast.

109% peak white and 10-bit signal processing

While the LMD-2030W conducts signal processing at 8-bit precision, the LMD-1530W goes further to 10-bit precision. This provides stunning 109% peak white reproduction without clipping and a smooth gray scale with CRT-like gamma.

gray scale on screen

8-bit (256-levels) image

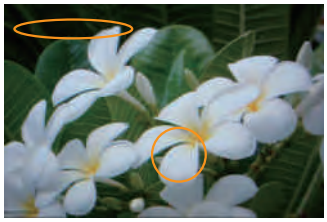
10-bit (1024-levels) image

(Images simulated)

Color Temperature/Gamma Selection

You can select High, Low, or Preset color temperatures and choose from a variety of gamma modes.

Incorrect gamma image



Correct gamma image

(Images simulated)

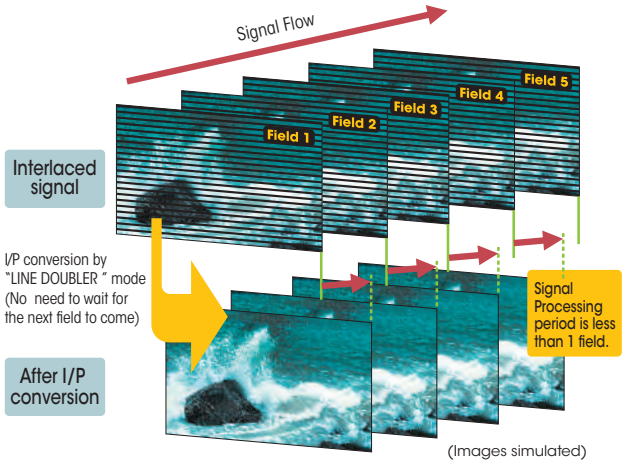
I/P mode selection

Three I/P conversion modes enable you to select the best one for your application:

- **Inter-Field:** Interpolates images between fields to maximize picture quality, minimize "jaggies" in areas of motion.
- **Line Doubler:** Interpolates by simply repeating each line. Recommended for editing and monitoring of fast-moving images and checking line flicker. This mode helps to minimize processing time, which is held to less than one field (0.5 frame).

Picture Delay Minimum

Audio is just as much a part of the show as video, and timing is always an issue. To optimize audio sync during editing, set the IP Mode to Line Doubler. This helps to reduce picture delay to less than one field (0.5 frame).


Signal Flow
Field 1
Field 2
Field 3
Field 4
Field 5
Interlaced signal
I/P conversion by "LINE DOUBLER " mode (No need to wait for the next field to come)
After I/P conversion
Signal Processing period is less than 1 field.
(Images simulated)

I/P conversion

Input Versatility

Entry-Level LUMA® monitors offer a full range of analog SD inputs including analog composite NTSC and PAL, Y/C (S-Video), and 525i/625i component and RGB. These monitors accept SD-SDI signals with the optional BKM-320D adaptor.

You can connect HD signals via analog component input and HDMI™ interface, which is increasingly popular in entry-level HD. The HDMI input can also accept DVI signals via conversion cable.

Video Input Signals/Input Adaptors

Input Signal				Interface			
System	Total Line	Active Line	Aspect Ratio	Composite Y/C	RGB Component	SD-SDI	HDMI
				Standard		Optional BKM-320D	Standard
575/50i (PAL)	625	575	16:9/4:3	O	O	O	O
480/60i (NTSC)*1	525	483	16:9/4:3	O	O	O	O
576/50P	625	576	16:9/4:3	N.A.	O	N.A.	O
480/60P	525	483	16:9/4:3	N.A.	O	N.A.	O
1080/24P*1	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/25P	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/30P*1	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/50i	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/60i*1	1125	1080	16:9	N.A.	O	N.A.	O
720/50P	750	720	16:9	N.A.	O*2	N.A.	O
720/60P*1	750	720	16:9	N.A.	O	N.A.	O

*1 The frame rate is also compatible with 1/1.001 frame rates. *2 Component signals only.

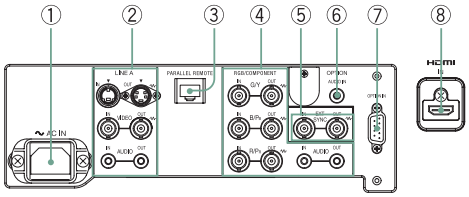
DVI Input Signals

Resolution	Dot clock (MHz)	fH (kHz)	fV (Hz)	LMD-2030W	LMD-1530W
720 x 400 70Hz	28.322	31.469	70.087	O	O
800 x 600 56Hz	36.000	35.156	56.250	O	O
800 x 600 60Hz	40.000	37.879	60.317	O	O
1024 x 768 60Hz	65.000	48.363	60.004	O	O
1280 x 768 60Hz	79.500	47.776	59.870	–	O
1360 x 768 60Hz	85.500	47.712	60.015	O	–

*A DVI conversion cable is required.

Connector panel

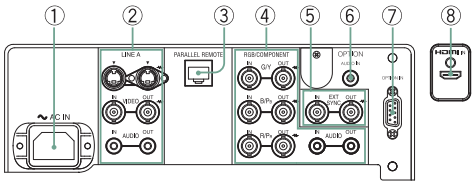
LMD-2030W



① AC In
② Line A [Composite (BNC), Y/C (Mini-DIN 4-pin), Audio (Phono jack)]
③ PARALLEL REMOTE (modular connector)
④ RGB/COMPONENT [BNC, Audio (Phono jack)]
⑤ EXT SYNC In/Out (BNC)
⑥ OPTION Audio In (Phono jack)
⑦ OPTION In connector for SD-SDI board (BKM-320D)
⑧ HDMI

LMD-2030W

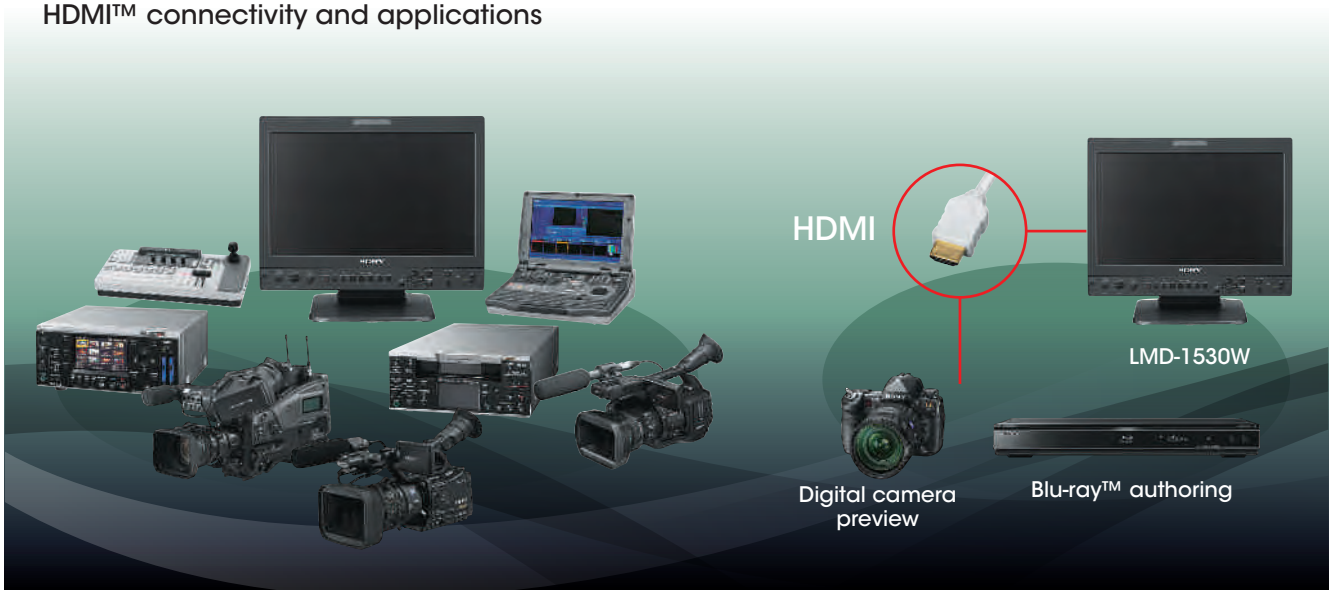
LMD-1530W



① AC In
② Line A [Composite (BNC), Y/C (Mini-DIN 4-pin), Audio (Phono jack)]
③ PARALLEL REMOTE (modular connector)
④ RGB/COMPONENT [BNC, Audio (Phono jack)]
⑤ EXT SYNC In/Out (BNC)
⑥ OPTION Audio In (Phono jack)
⑦ OPTION In connector for SD-SDI board (BKM-320D)
⑧ HDMI (with a cable holder)

LMD-1530W

HDMI™ connectivity and applications



Operational Convenience

Advanced Marker Settings

Whether you're shooting live sports, news, field production or digital cinematography, Sony's on-screen markers can help. These monitors can display a center marker and a choice of aspect markers, which you can set at three levels of brightness: white, gray, and dark gray. You can also select either a black or gray matte to fill the area outside the aspect markers.

4:3 aspect marker image

16:9 aspect marker image

(Images simulated)

Selectable Scan Size and Aspect Ratio

You can select scan size for Normal, 5% Over scan, Full scan, and Native scan modes. The aspect ratio can be switched between 16:9 and 4:3 according to the input signal.

Three-color Tally

Entry-Level LUMA® monitors feature a tally lamp controlled by the parallel remote connector. The tally lamp identifies the status of the signal by the colors red, green or amber.

Parallel Remote Control

You can control Entry-Level LUMA monitors via the parallel remote connector. There are 17 functions in the remote menu, of which seven can be allocated to the remote connector.

Monaural Audio Monitoring

To monitor audio, Entry-Level LUMA monitors incorporate a speaker (0.5 W).

Protected Controls

The key-inhibit function helps prevent accidental operation from the control panel.

Convenient Installation

Mounting Flexibility

Mountable in a 19-inch EIA Standard Rack

The monitors can be mounted in a 19-inch EIA standard rack using optional brackets. The 9U-high LMD-2030W uses the MB-529 brackets, while the 7U-high LMD-1530W uses the MB-533 brackets.

LMD-1530W with rack-mount image

VESA Mounting

Entry-Level LUMA monitors provide VESA standard mounting holes (100 x 100 mm pitch), which support installation on a wall or ceiling.

Other Features

- Setup level for analog component and NTSC signals
- Blue-only mode
- External sync IN

Optional Accessories

BKM-250TG
3G/HD/SD-SDI Input Adaptor
(for LMD-2451W/LMD-1751W only)

BKM-244CC
HD/SD-SDI Closed Caption Adaptor
(for high-grade type)

BKM-243HS
HD/SD-SDI Input Adaptor
(for high-grade type)

BKM-220D
SD-SDI 4:2:2 Input Adaptor
(for high-grade type)

BKM-229X
Analog Component Adaptor
(for high-grade type)

BKM-227W
NTSC/PAL Input Adaptor
(for high-grade type)

SU-561
Mounting Stand (for LMD-1751W)

MB-529
Mounting Bracket
(for LMD-2050W and LMD-2030W)

MB-530
Mounting Bracket
(for LMD-1751W)

MB-531
Mounting Bracket (for LMD-940W)

MB-532
Mounting Panel (for LMD-940W)

VF-510
ENG Kit (Viewing Hood, Carrying Handle and Connector Protector) (for LMD-940W)

BKM-320D
SD-SDI Input Adaptor
(for LMD-2030W and LMD-1530W)

MB-533
Mounting Bracket
(for LMD-1530W)

Feature Comparison

High-grade type

Model No.	LMD-4250W	LMD-2451W	LMD-2050W	LMD-1751W	LMD-940W
Panel type	a-Si TFT Active Matrix				
Picture size*1	42-inch	24-inch	20-inch	17-inch	9-inch
Resolution (pixels)	1920 x 1080	1920 x 1200	1680 x 1050	1280 x 768	800 x 480
Aspect ratio	16:9	16:10		15:9	
Colors	Approx. 16.7 million colors				
Input interface					
Composite	BNC (x1), Optional BKM-227W BNC (x1)				BNC (x1)
Y/C	Mini-DIN 4-pin (x1), Optional BKM-227W Mini-Din 4-pin (x1)				–
RGB/Component	BNC (x3), Optional BKM-229X BNC (x3)				–
SD-SDI	Optional BKM-220D BNC (x2)				BNC (x1)
HD/SD-SDI	Optional BKM-243HS, BKM-244CC BNC (x2)				
3G/HD/SD-SDI	–	Optional BKM-250TG BNC (x2)	–	Optional BKM-250TG BNC (x2)	
HDMI	–				HDMI (x1)
DVI-D	DVI-D (x1)				–
HD15	D-sub 15-pin (x1)				–
Audio	Phono jack (x2) (L/R)				Stereo mini jack (x1)
External Sync	BNC (x1), Optional BKM-229X BNC (x1)				–
Option slot	2 slots (BKM-220D, BKM-227W, BKM-229X, BKM-243HS, BKM-244CC, BKM-250TG*3)				–
Output interface					
Composite	BNC (x1)*2, Optional BKM-227W BNC (x1)*2				BNC (x1)
Y/C	Mini-DIN 4-pin (x1)*2, Optional BKM-227W Mini-Din 4-pin (x1)*2				–
RGB/Component	BNC (x3)*2				–
SD-SDI	Optional BKM-220D BNC (x1)*2				BNC (x1)
HD/SD-SDI	Optional BKM-243HS, BKM-244CC BNC (x1)*2				
3G/HD/SD-SDI	–	Optional BKM-250TG BNC (x2)	–	Optional BKM-250TG BNC (x2)	
External Sync	BNC (x1)*2				–
Audio monitor out	Phono jack (x2) (L/R)				Stereo mini jack (x1)
Speaker (Built-in)	1.0 W + 1.0 W (stereo)				0.5 W (mono)
Headphone output	–				Stereo mini jack (x1)
Remote control					
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)				
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)				RJ-45 modular connector (Ethernet) (x1)
Features					
Signal Processing	10-bit				
Color Matching	ChromaTRU				
Auto white balance caribration	–	Yes	–	Yes	Yes*4
I/P mode selection	3 modes (Inter field, Field merge, Line doubler)				
Power saving mode	Yes				
Markers	Aspect, Center, Safety Area				Aspect, Center
Waveform monitor	–	Yes			
Audio level meter	–	2-ch and 8-ch*5 SDI-embedded audio	2-ch SDI-embedded audio	2-ch and 8-ch*5 SDI-embedded audio	2-ch and 8-ch SDI-embedded audio
Color Temperature	D65, D93, user				
Closed Caption	EIA608 (standard), EIA708 (optional BKM-244CC)				–
Aspect Switch	16:9, 4:3				
Scan mode	Normal (0%), Over (5%), Native*6	Normal (0%), Over (5%), Full*6, Native*6			
Blue only	Yes				
H/V Delay	Yes				
Tally	–	3 colors			
Smart APA	Yes				–
EIA 19-inch Rack Mounting	–		Optional MB-529	Optional MB-530	Optional MB-531
VESA Mounting	400 x 400 mm	100 x 100 mm	100 x 100 mm	100 x 100 mm 75 x 75 mm	–
Desktop stand	–	Supplied	Supplied	Optional SU-561	Supplied
DC Operation	–	24 V		12 V	12 V

*1 Viewable area, measured diagonally.
*2 Loop-through, automatic termination.
*3 3G-SDI does not support in LMD-4250W and LMD-2050W
*4 The LMD-940W supports this function from V1.05 or later.
*5 The 8-ch audio level meter can be displayed when the optional BKM-250TG input adaptor is installed.
*6 The full scan and native scan modes work on specific signal formats.

Entry-level type

Model No.	LMD-2030W	LMD-1530W
Panel type	a-Si TFT Active Matrix	
Picture size (diagonal*1)	20-inch	15.3-inch
Resolution (pixels)	1680 x 1050	1280 x 768
Aspect ratio	16:10	15:9
Colors	Approx. 16.7 million colors	
Input interface		
Composite	BNC (x1)	
Y/C	Mini-DIN 4-pin (x1)	
RGB/Component	BNC (x3)	
SD-SDI	Optional BKM-320D BNC (x1)	
HDMI	HDMI (x1)	
DVI-D	via HDMI (x1)*1	
HD15	–	
Audio	Phono jack (x1)	
External Sync	BNC (x1)	
Option connector	D-sub 9-pin (for BKM-320D) Phono jack (x1)	
Output interface		
Composite	BNC (x1)*2	
Y/C	Mini-DIN 4-pin (x1)*2	
RGB/Component	BNC (x3)*2	
External Sync	BNC (x1)*2	
Audio monitor out	Phono jack (x1)	
Speaker (Built-in)	0.5 W (mono)	
Remote control		
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)	
Features		
Signal Processing	8-bit	10-bit
I/P mode selection	2 modes (Inter field, Line doubler)	
Markers	Aspect, Center	
Color Temperature	High, Low, User	
Aspect Switch	16:9, 4:3	
Scan	Under (-3%), Over (5%), Full	
Blue only	Yes	
Tally	3 colors	
EIA 19-inch Rack Mounting	Optional MB-529	Optional MB-533
VESA Mounting	100 x 100 mm	
Desktop stand	Supplied	Supplied
DC Operation	–	

*1 DVI-D/HDMI conversion cable is required.
*2 Loop-through, automatic termination.

Specifications

High-grade type

LMD-4250W

LMD-2451W

Picture Performance		
Type	α-Si TFT Active Matrix LCD	
Resolution	1920 x 1080 pixels (Full HD)	1920 x 1200 pixels (WUXGA)
Effective Picture Size(H x W) (Diagonal)	36 3/4 x 20 3/4 inches (930 x 523 mm) Approx. 42 inches (1067 mm)	20 1/2 x 12 7/8 inches (518.4 x 324.0 mm) 24 1/4 inches (613.2 mm)
Aspect	16:9	16:10
Colors	Approx. 16.7 million colors	
Viewing Angle	88°/88°/88°/88° (typical) (up/down/left/right contrast>10:1)	89°/89°/89°/89° (typical)(up/down/left/right contrast >10:1)
Input		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ± 3dB sync negative, C: 0.286 Vp-p ± 3dB (NTSC burst signal level), 0.3 Vp-p ± 3dB (PAL burst signal level)	
RGB, Component	BNC (x3) RGB : 0.7 Vp-p ± 3dB (Sync On Green, 0.3 Vp-p sync negative) Component : 0.7 Vp-p ± 3dB (75% chrominance standard color bar signal)	
SDI	–	
HDMI	–	
DVI-D	DVI-D (x1) TMDS single link	
HD15	D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync : Total level (polarity free, H/V separate sync) Plug & Play function : corresponds to DDC2B	
Audio	Phono jack (x2) (L, R), -5 dBu 47 kilohms or higher	
External Sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary	
Option slot	2 slots Signal format: H: 15 kHz to 45 kHz, V: 48 Hz to 60 Hz	
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)	
Seiral remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (ETHERNET) (x1) (10BASE-T/100BASE-TX)	
DC in	–	DC 24 V (output impedance 0.05 ohms or less)
Output		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
Y/C	Mini DIN 4-pin (x1) Loop-through, with 75 ohms automatic termination	
RGB, Component	BNC (x3), Loop-through, with with 75 ohms automatic termination	
SDI	–	
External Sync	BNC (x1), Loop-through, with 75 ohms automatic termination	
Audio monitor out	Phono jack x 2 (L, R)	
Speaker (Built-in)	1.0 W + 1.0 W (stereo)	
Headphones output	–	
General		
Power Requirement	AC 100 V to 240 V, 50/60 Hz, 2.3 A to 1.1 A	AC 100 V to 240 V, 50/60 Hz, 1.5 A to 0.7 A DC 24 V, 5.7 A
Power Consumption	Maximum: approx. 230 W (with 2 x BKM-229X)	Maximum: approx. 130 W (with 2 x BKM-229X)
Operating Temperature	32°F to 95°F (0°C to 35°C) Recommended: 68°F to 86°F (20°C to 30°C)	
Operating Humidity	30% to 85% (no condensation)	
Storage / Transport Temperature	-4°F to +140°F (-20°C to +60°C)	
Storage / Transport Humidity	0% to 90%	
Operating / Storage / Trans. Pressure	700 hPa to 1060 hPa	
Dimensions (W x H x D) (with stand)	–	23 3/4 x 19 5/8 x 10 3/4 inches (602.4 x 497.9 x 269.9 mm)
Dimensions (W x H x D) (without stand)	40 1/2 x 24 3/8 x 5 1/8 inches (1027 x 616 x 130 mm)	23 3/4 x 15 1/4 x 4 3/8 inches (602.4 x 386.2 x 110.0 mm)
Weight (with options)	55 lb 2 oz (25 kg) (with 2 x BKM-229X)	25 lb 2 oz (11.4 kg) (with 2 x BKM-229X)
Weight	54 lb (24.5 kg)	24 lb 4 oz (11.0 kg)
Supplied accessories	AC power cord (1), AC plug holder (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)	

High-grade type

LMD-2050W

LMD-1751W

LMD-940W

Picture Performance			
Type	a-Si TFT Active Matrix LCD		
Resolution	1680 x 1050 pixels (WSXGA+)	1280 x 768 pixels (WXGA)	800 x 480 pixels (WVGA)
Effective Picture Size(H x W) (Diagonal)	17 1/8 x 10 3/4 inches (433.4 x 270.9 mm) 20 1/8 inches (511.1 mm)	14 5/8 x 8 3/4 inches (370 x 222 mm) 17 inches (431 mm)	7 3/4 x 4 5/8 inches (195 x 117 mm) 9 inches (227 mm)
Aspect	16:10	15:9	
Colors	Approx. 16.7 million colors		
Viewing Angle	89°/89°/89°/89° (typical) (up/down/left/right contrast>10:1)	85°/85°/85°/85° (typical) (up/down/left/right contrast>10:1)	85°/85°/85°/85° (typical) (up/down/left/right contrast>10:1)
Input			
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative		
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ± 3dB sync negative, C: 0.286 Vp-p ± 3dB (NTSC burst signal level), 0.3 Vp-p ± 3dB (PAL burst signal level)		–
RGB, Component	BNC (x3) RGB : 0.7 Vp-p ± 3dB (Sync On Green, 0.3 Vp-p sync negative) Component : 0.7 Vp-p ± 3dB (75% chrominance standard color bar signal)		–
SDI	–		BNC (x1)
HDMI	–		HDMI (x1)
DVI-D	DVI-D (x1) TMDS single link		–
HD15	D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync : Total level (polarity free, H/V separate sync) Plug & Play function : corresponds to DDC2B		–
Audio	Phono jack (x2) (L, R), -5 dBu 47 kilohms or higher		Stereo mini jack (x1), -5 dBu 47 kΩ or higher
External Sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary		–
Option slot	2 slots Signal format: H: 15 kHz to 45 kHz, V: 48 Hz to 60 Hz		–
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)		
Seiral remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (ETHERNET) (x1) (10BASE-T/100BASE-TX)		RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)
DC in	DC 24 V (output impedance 0.05 ohms or less)	DC 12 V (output impedance 0.05 ohms or less)	DC 12 V (output impedance 0.05 ohms or less)
Output			
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination		
Y/C	Mini DIN 4-pin (x1) Loop-through, with 75 ohms automatic termination		–
RGB, Component	BNC (x3), Loop-through, with with 75 ohms automatic termination		–
SDI	–		BNC (x1), output signal amplitude: 800 mVp-p ±10%, output impedance: 75 ohms unbalanced
External Sync	BNC (x1), Loop-through, with 75 ohms automatic termination		–
Audio monitor out	Phono jack x 2 (L, R)		Stereo mini jack (x1)
Speaker (Built-in)	1.0 W + 1.0 W (stereo)		0.5 W (mono)
Headphones output	–		Mini jack (x1)
General			
Power Requirement	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A, DC 24 V 3.3 A	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A DC 12 V, 5.7 A	AC 100 V to 240 V, 50/60 Hz, 0.4 A to 0.2 A, DC 12 V 1.9 A
Power Consumption	Maximum approx. 95 W (with 2 x BKM-229X)	Maximum: approx. 77 W (with 2 x BKM-229X)	Maximum approx. 24 W
Operating Temperature	32°F to 95°F (0°C to 35°C) Recommended: 68°F to 86°F (20°C to 30°C)		32°F to 104°F (0°C to 40°C) Recommended: 68°F to 86°F (20°C to 30°C)
Operating Humidity	30% to 85% (no condensation)		
Storage / Transport Temperature	-4°F to +140°F (-20°C to +60°C)		
Storage / Transport Humidity	0% to 90%		
Operating / Storage / Trans. Pressure	700 hPa to 1060 hPa		
Dimensions (W x H x D) (with stand)	20 1/2 x 17 1/2 x 10 3/4 inches (518.5 x 444.1 x 269.9 mm)	17 3/8 x 15 1/4 x 10 3/4 inches (439.5 x 385.7 x 269.9 mm) (stand is optional)	8 7/8 x 7 1/4 x 6 3/8 inches (222.4 x 183.5 x 161.8 mm) (when AC adaptor is attached)
Dimensions (W x H x D) (without stand)	20 1/2 x 13 x 4 1/8 inches (518.5 x 328.7 x 104.7 mm)	17 3/8 x 11 1/4 x 4 1/4 inches (439.5 x 284.0 x 105.0 mm)	8 7/8 x 6 5/8 x 2 7/8 inches (222.4 x 166 x 70 mm) (when AC adaptor is detached)
Weight (with options)	23 lb 2 oz (10.5 kg) (with 2 x BKM-229X)	19 lb 6 oz (8.8 kg) (with SU-561 and 2 x BKM-229X)	5 lb 12 oz (2.6 kg) (When AC adaptor is installed)
Weight	22 lb 4 oz (10.1 kg)	13 lb 14 oz (6.3 kg)	4 lb 6 oz (2.0 kg)
Supplied accessories	AC power cord (1), AC plug holder (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)		AC power cord (1), AC plug holder (1), AC power adaptor (1), Operating instructions (1), CD-ROM (1), Using the CD-ROM manual (1), Warranty book (1)

Entry-level type

LMD-2030W

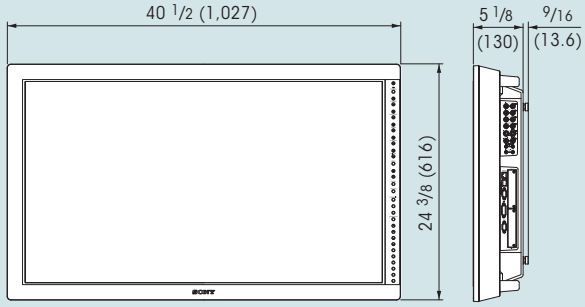
LMD-1530W

Picture Performance		
Type	a-Si TFT Active Matrix LCD	
Resolution	1680 x 1050 pixels (WSXGA+)	1280 × 768 pixels (WXGA)
Effective Picture Size(H x W) (Diagonal)	17 1/8 x 10 3/4 inches (433 x 271 mm) 20 1/8 inches (511 mm)	13 1/4 × 7 7/8 inches (334 × 200 mm) 15 3/8 inches (390 mm)
Aspect	16:10	15:9
Colors	Approx. 16.7 million colors	
Viewing Angle	89°/89°/89°/89° (typical) (up/down/left/right contrast>10:1)	88° / 88° / 88° / 88° (typical) (up/down/left/right contrast >10:1)
Input		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ± 3dB sync negative, C: 0.286 Vp-p ± 3dB (NTSC burst signal level), 0.3 Vp-p ± 3dB (PAL burst signal level)	
RGB, Component	BNC (x3) RGB : 0.7 Vp-p ± 3dB (Sync On Green, 0.3 Vp-p sync negative) Component : 0.7 Vp-p ± 3dB (75% chrominance standard color bar signal)	
HDMI	HDMI (x1)	
Audio	Phono jack (x2), –5 dBu 47 kilohms or higher OPTION AUDIO IN: Phono jack (x1), –5 dBu 47 kilohms or higher	
External Sync	BNC (x1), 0.3 to 4 Vp-p negative polarity binary	
Option In connector	D-sub 9-pin (x1), female	
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)	
Output		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
Y/C	Mini DIN 4-pin (x1) Loop-through, with 75 ohms automatic termination	
RGB, Component	BNC (x3), Loop-through, with with 75 ohms automatic termination	
External Sync	BNC (x1), Loop-through, with 75 ohms automatic termination	
Audio monitor out	Phono jack (x2), Loop-through	
Speaker (Built-in)	0.5 W (mono)	
General		
Power Requirement	AC 100 V to 240 V, 50/60 Hz	
Power Consumption	Maximum approx. 72 W, 0.8 A to 0.4 A	Maximum: approx. 40 W, 0.6 A to 0.4 A
Operating Temperature	32°F to 95°F (0°C to 35°C) Recommended: 68°F to 86°F (20°C to 30°C)	
Operating Humidity	30% to 85% (no condensation)	
Storage / Transport Temperature	-4°F to +140°F (-20°C to +60°C)	
Storage / Transport Humidity	0% to 90%	
Operating / Storage / Trans. Pressure	700 hPa to 1060 hPa	
Dimensions (W x H x D) (with stand)	19 1/2 x 16 1/8 x 10 1/2 inches (493 x 408 x 264 mm)	14 3/4 × 13 1/4 × 10 1/2 inches (372 × 336 × 264 mm)
Dimensions (W x H x D) (without stand)	19 1/2 x 14 1/4 x 3 1/2 inches (493 x 361 x 87mm)	14 3/4 x 11 3/8 x 4 inches (372 x 288 x 100 mm)
Weight	21 lb 3 oz (9.6 kg)	13 lb (5.9 kg)
Weight (without stand)	17 lb 6 oz (7.9 kg)	9 lb 4 oz (4.2 kg)
Supplied accessories	AC power cord (1), AC plug holder (1), Operating instructions (1), CD-ROM (1), Using the CD-ROM manual (1), Warranty book (1)	

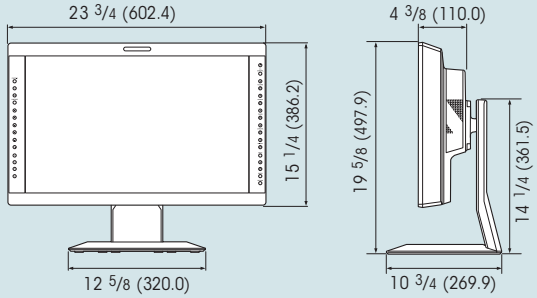
Dimensions

High-grade Type

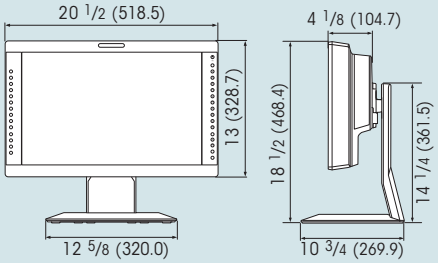
LMD-4250W



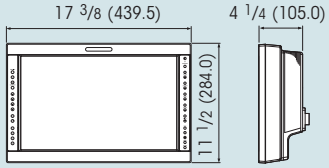
LMD-2451W



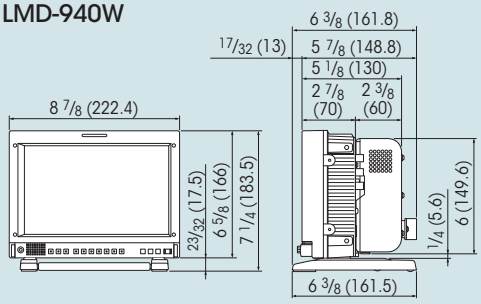
LMD-2050 W



LMD-1751W

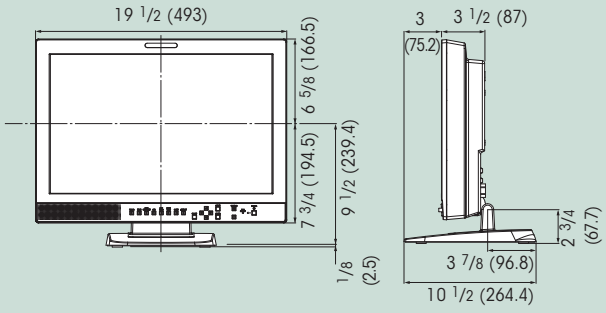


LMD-940W

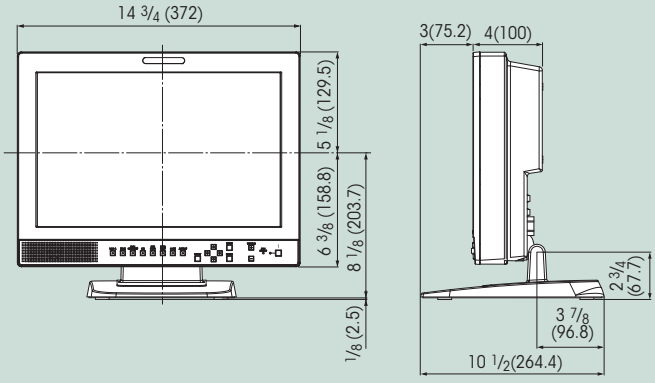


Entry-level Type

LMD-2030W



LMD-1530W



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